

said many through-holes have opening shapes of hexagons congruent with each other, and said beam parts are connected to each other in a honeycomb-shape.

7. The cell culture system according to claim 1 further comprising a collector for recovering cell aggregates with a predetermined size, wherein

the collector is connected to the first container so as to receive the cell aggregates suspension cultured in the first container and the liquid medium,

the collector has a separation chamber, the separation chamber is divided into a first chamber and a second chamber by a mesh structure for separation, and an internal flow path is configured such that the liquid medium that has entered the collector moves from the first chamber through the mesh structure for separation to the second chamber and exits the collector, and

the mesh structure for separation has mesh-holes of a predetermined size to prevent cell aggregates of a size intended for collection from passing through, whereby, of the cell aggregates that entered the collector together with the liquid medium, a cell aggregate of a size intended for collection does not pass through the mesh structure for separation and stays in the first chamber.

8. The cell culture system according to claim 7, wherein an overall shape of the mesh structure for separation is sheet-like or sac-like.

9. The cell culture system according to claim 7, wherein the mesh structure for separation is configured in a separation chamber of the collector such that the liquid medium has a vertically upward directional component in the progress direction when the liquid medium passes through mesh-holes of the mesh structure for separation in the collector.

10. The cell culture system according to claim 7, wherein the first chamber in the separation chamber of the collector comprises

a first inlet port for receiving the cell aggregates suspension cultured in the first container and the liquid medium in the first chamber,

a second inlet port for flowing a liquid for diluting a reagent and/or the suspension containing the cell aggregates and the liquid medium into the first chamber from the outside, and

an outlet port for flowing a part of the cell aggregates from the first chamber to the outside.

11. The cell culture system according to claim 1, further comprising a liquid feeding device for moving the liquid medium and the cell aggregates, wherein the liquid feeding device is one or more selected from the group consisting of an apparatus for deforming the first container by compression to send out the liquid medium and the cell aggregates contained therein, a syringe pump, and a peristaltic pump.

12. The cell culture system according to claim 1, further comprising a backward direction liquid feeding function or

a backward direction liquid feeding device for moving the predetermined liquid such that the predetermined liquid passes through the mesh structure in a direction opposite to the direction of passage of the cell aggregate to be divided through the mesh structure together with the liquid medium.

13. The cell culture system according to claim 1, wherein the cell aggregate to be divided is a cell aggregate composed of pluripotent stem cells.

14. The cell culture system according to claim 1, wherein the liquid medium comprises a fine structure for suspending the cells or cell aggregates in the liquid medium, and the fine structure is dispersed and floating in the liquid medium.

15. A method for producing a cell aggregate by using the cell culture system according to claim 1, comprising

a step of dividing a cell aggregate to be divided and a liquid medium by passing the cell aggregate through the divider in the cell culture system, and

a step of feeding the cell aggregate divided in the divider into the first container together with a liquid medium, and performing suspension culture in the first container.

16. The production method according to claim 15, wherein the flow velocity of the liquid medium is 10 mm/sec-500 mm/sec when the cell aggregate passes through the divider together with the liquid medium.

17. The method according to claim 15, further comprising a backflow washing step, wherein the backflow washing step is a step of passing, after division of a predetermined amount of the cell aggregates in the step of dividing the cell aggregates, a predetermined liquid through the mesh structure in the divider direction opposite to the direction of passage of the cell aggregate through the mesh structure of the device for division, thereby washing the mesh structure.

18. A method for producing a cell aggregate by using the cell culture system according to claim 7, comprising

a step of dividing a cell aggregate to be divided and a liquid medium by passing the cell aggregate through the divider in the cell culture system,

a step of feeding the cell aggregate divided in the divider into the first container together with a liquid medium, and performing suspension culture in the first container, and

a step of feeding the cell aggregates suspension cultured in the first container into the collector of the cell culture system together with the liquid medium, and feeding and collecting cell aggregates remaining in the first chamber of the collector in a collection container.

19. The production method according to claim 17, wherein a flow velocity of the liquid medium passing through the collector for separation of the cell aggregates from the liquid medium is 0.01 mm/sec-25 mm/sec.

* * * * *